UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,770	10/07/2003	Edward S. Yeung	224711	8317

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EXAMINER
ROSENBERGER, RICHARD A

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/681,770	YEUNG ET AL.
	Examiner	Art Unit	
	Richard A. Rosenberger	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 February 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>24-31, 33-34</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>24-31,33-34</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1.   This application is presented as a continuation of an earlier application 10/070,531. However, it appears that some of what is now claimed in this application has no support in that earlier application. In particular, the earlier application appears to lack any support for treatment of the data from the detector array in which at least two values are selected and combined to produce an output which is a function of the selected values (claim 29), a peak value is selected and averaged with another value (instant claims 26 and 31), or averaged with four other values (instant claims 25 and 30), nor is there disclosure relating to selecting at least two digital values so as to minimize long time drifts in the pixel signatures (instant claims 28 and 33).

There is disclosure in the parent application for "boxcar smoothing" (reproduced in the instant specification paragraph [0130], page 29, lines 1-5). This smoothing appears to meet the claimed processor generating a plurality of output signals "each output signal being a function of at least two digital values" as in instant claims 24 and 34, but does not disclose the selecting the values as in claims 25, 26, 28-31 and 33. The parent application states that "the method can comprise selecting one pixel" and that "it is desirable to select only one [pixel] to analyze and to disregard the others" (both from, as reproduced in the instant specification, paragraph [0078], page 14, lines 34-37). Thus the parent application, and the specification in this case, teaches a different method than that now claimed in claims 25, 26, 28-31 and 33.

As there is no support in the earlier application for the claimed subject matter claims 25-26, 28-31, and 33, the effective filing date for the subject matter herein claimed in those claimed is the filing date of this application, 7 October 2003, and not the effective filing date of the parent applications.

It appears that there is disclosure in the original disclosure for claims 24, 27 and 34, so the effective filing date of those three claims is that of the parent application.

2.   Claims 28, and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 28 and 33 set forth that pixels are "selected to minimize long time drifts of the pixel signals to generate a substantially flat baseline of the pixel signals". The only disclosure for this appears to be the claims themselves; there appears to be no teaching of how to select pixels to accomplish this end. Merely stating that something can be done does not adequately disclose how to do it.

There is disclosure in the instant specification that to minimize baseline fluctuation the photon count should be as high as possible, and that "to allow for baseline drift" the diodes "preferably are only 85-90% saturated" (paragraph [0107],

page 21). It does not appear, however, that either one of these techniques can be

reasonably termed selecting the values produced by the analog-to-digital converter,

as claimed in claims 28 and 33. Nor does it appear that minimizing baseline

fluctuation due to random noise, nor allowing for baseline drift, can be reasonable

termed techniques to "minimize long term drifts". The first, high photon count,

minimizes short-term fluctuations, not long term drifts, and the second, a selected

saturation level, allows for baseline drift, but, as disclosed, does not appear to

minimize such drifts.

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102

that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 25-26, 38-31 and 33 are rejected under 35 U.S.C. 102(e) as being

anticipated by Doolen et al (US 6,462,816).

As set forth above, the effective filing date for what is herein claimed is 7

October 2003, which is the effective date of the invention by Applicants unless an

earlier date can be established. The patent date of the Doolen et al patent is 8

October 2002, and its filing date is 21 July 2000, both of which are prior to the effective filing date, and effective date of invention, of the claimed subject matter in these claims. Thus Doolen is available for these claims under at least 35 USC 102(e).

Doolen discloses and claims selecting, in a system such as is claimed, selecting at least two values (Doolen, claim 11, for example), selecting a peak value and one or four other values to average with the peak value (Doolen, claims 2 and 6, for example). Doolen et al discloses and claims the averaging of pixel values over time (Doolen, claim 9, for example) and the selection of values to minimize long time drifts to generate a substantially flat baseline (Doolen, claims 10 and 20).

5. Claims 24, 27 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilby et al (US 5,900,934).

Gilby et al shows, in particular in figure 3, a system for use in analyzing multiple samples simultaneously by absorption detection, which system comprises: (i) a planar array of multiple containers [34], into each of which can be placed a sample, (ii) a light source [12/12'] for emitting light to pass through the planar array of multiple containers, (iii) a photodetector [42], which is in line with the light source, is positioned in line with and parallel to the planar array of multiple containers, and comprises a linear array of photosensitive elements for receiving light passing through the planar array of multiple containers, wherein, upon

illumination of a photosensitive element by light passing through the planar array of multiple containers, a pixel signal corresponding to the light received by the photosensitive element is generated, (iv) an analog to digital converter [column 5, line 54], which converts the pixel signal for each illuminated photosensitive element to a digital value corresponding to the light received by the respective photosensitive element, and (v) a processor [21], which receives the digital values and generates a plurality of output signals corresponding thereto, each output signal being a function of at least two digital values corresponding to the light passing substantially concurrently through two photosensitive elements [column 8, lines 9-11].

As in claim 27, Gilby teaches time averaging (column 5, line 61; column 7, line 35).

6.   The remarks filed 7 February 2005 have been considered, but have not been found to be persuasive.

As pointed out in the arguments, and in the previous office action, and above, there is disclosure in the parent application for 25-point boxcar averaging. The remarks of 7 February 2005 define boxcar averaging as "adding up all the points (e.g. 25) to produce a running average" (remarks, page 8, lines 2-3). This is, as states in the previous office action and above, " a function of at least two digital values ..." as in claims 24 and 34. However, this does not reasonably disclose tot

hose in the art the claimed processor that "selects one peak value and averages the

selected peak with four digital values , which correspond to pixel signals from

photosensitive elements corresponding to the selected peak digital value" as in

claims 25 and 30, and does not reasonably convey a processor that "selects one peak

digital value and averages the selected digital value with at least a second digital

value" as in claims 26 or the step if "selecting, for each container, at least two

digital values ..." as in claim 29. The disclosed boxcar averaging does not involve

"selecting" the values to be averages, it is, as set forth in the remarks, a running

average formed by "adding up *all* the points" [emphasis added], and not selecting

the points to be averaged.

The remarks do not point out any disclosure in the specification that supports

claims 28 and 33, that is, any disclosure as how to select "at least two digital

values" in a manner to minimize long time drifts or to generate a substantially flat

baseline.

The remarks point out paragraph [0130] as disclosing a time average of

signals. The relationship in this paragraph between smoothing and the need for

higher data acquisition rates, particularly in the second sentence, would appear to

support the average over time as in claim 27. As set forth above, Gilby et al teaches

such an average over time.

The remarks allege that "Gilby is an improper anticipation reference", but

offers no reasons as to why; it does not point out any difference between what is

claimed in claim 24 and 34 and what is disclosed in the Gilby reference. The fact

that the Gilby reference was used in a different application with different claims of

different scope as part of a rejection that has not been made in this application is

not relevant here

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time
policy as set forth in 37 CFR 1.136(a).
    A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
MONTHS of the mailing date of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,
however, will the statutory period for reply expire later than SIX MONTHS from the mailing
date of this final action.

8.   Any inquiry concerning this communication or earlier communications from
the examiner should be directed to Richard A Rosenberger whose telephone number
is (571) 272-2428. The examiner can normally be reached on Monday through
Friday during the hours of 8:00-4:30.
    If attempts to reach the examiner by telephone are unsuccessful, the
examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext.
77. The fax phone number for the organization where this application or proceeding
is assigned is 703-872-9306.
    Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR
only. For more information about the PAIR system, see http://pair-direct.uspto.gov.
Should you have questions on access to the Private PAIR system, contact the
Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger
6 April 2005

Richard A. Rosenberger
Primary Examiner